

ABSTRACT

The present invention relates to promoters, enhancers and other regulatory elements that direct expression within tumor and tissue cells with calcification potential. In particular, it relates to compositions comprising nucleotide sequences from the 5' regulatory region, and transcriptionally active fragments thereof, that control expression of a bone sialoprotein ("BSP"). Specifically provided are expression vectors, host cells and transgenic animals wherein a BSP regulatory region is capable of controlling expression of a heterologous coding sequence, over-expressing an endogenous BSP coding sequence or an inhibitor of a pathological process or knocking out expression of a specific gene believed to be important for a calcification-related disease in tumor and tissue cells with calcification potential. The invention also relates to methods for using said vectors, cells and animals for screening candidate molecules for agonists and antagonists of disorders involving tumor and tissue cells with calcification potential. The present invention further relates to compositions and methods for modulating expression of compounds within tumor and tissue cells with calcification potential. Methods for using molecules and compounds identified by screening assays for therapeutic treatments also are provided. The invention further relates to methods of treating tumors and other diseases and disorders involving tumor and tissue cells with calcification potential.